

**REMARKS**

Claims 1-5 are all the claims pending in the application.

Claim 1 has been amended to recite that the high index of refraction is at least 1.738. Support for the amendment can be found, for example, in the Examples, which provide films having a high index of refraction of 1.738 or higher. Specifically, Examples 1, 2 and 3 provide films having a high index of refraction of 1.738, 1.744 and 1.757, respectively.

In addition, claims 1 and 5 have been amended to replace "sulfo group" with --thio group-- and "sulfoxyl group" with --sulfinyl group--. Support for the amendments can be found, for example, on page 4, line 20 of the present specification. Further, claims 1 and 5 have been amended to delete "a single bond" and "or an alkylene group having from 1 to 5 carbon atoms" from the definition of X<sup>7</sup>.

Entry of the above amendments is respectfully requested.

**I. Response to Rejection of Claims 1-5 under 35 U.S.C. § 112, second paragraph**

Claims 1-5 are rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

With respect to claims 1-4, the Examiner asserts that the language "high index of refraction" is subjective language and that it cannot be determined what quantitatively constitutes a "high index of refraction".

Applicants respectfully traverse the rejection.

As noted previously, to meet the requirements of §112, second paragraph, the claims must be sufficiently definite for one to reasonably determine their scope. MPEP § 706.03(d). It is respectfully submitted that the limitations of the claims are definite for the reasons of record.

However, to advance prosecution, claim 1 has been amended to recite that the high index of refraction is at least 1.738. Support for the amendment can be found in the Examples of the application. The Examples provide films having a high index of refraction, and specifically, Examples 1, 2 and 3 provide films having a high index of refraction of 1.738, 1.744 and 1.757, respectively.

With respect to the definition of X<sup>7</sup>, claims 1 and 5 have been amended so that X<sup>7</sup> is defined as an alkyl group having 1 to 5 carbon atoms.

In view of the above amendments, withdrawal of the rejection is respectfully requested.

**II. Response to Rejection of Claims 1-5 under 35 U.S.C. § 103(a)**

Claims 1-5 remain rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Saito.

Applicants respectfully traverse the rejection.

A *prima facie* showing of obviousness requires (1) a suggestion or motivation in the references or in the knowledge of one of ordinary skill in the art, to modify the references or to combine reference teachings; (2) a reasonable expectation of success; and (3) a teaching or suggestion of all claimed limitations.

Thus, to support an obviousness rejection, there must be some teaching or suggestion in the prior art for one skilled in the art to arrive at the claimed invention.

Saito simply discloses that the polycarbodiimide resin can be a copolymer. However, there is no disclosure in Saito teaching or suggesting that the copolymer can contain two different types of aromatic diisocyanate residues. In fact, Saito discloses specific examples of polycarbodiimide resins comprising a single type of repeating unit. See cols. 2-3.

In addition, there is no disclosure in Saito regarding any particular advantage or benefit of the use of naphthalene diisocyanate compared to other aromatic diisocyanates. Moreover, none of the Examples of Saito are directed to polycarbodiimide resins where two different types of organic diisocyanates were used. The only example where two diisocyanates were reacted is Example 1, and the diisocyanates were both tolylene diisocyanates. Therefore, Saito would not lead one of ordinary skill in the art to specifically select naphthalene diisocyanate and react it with another type of diisocyanate based on the broad disclosure of Saito that various organic diisocyanates can be used. Thus, Saito does not contain any disclosure that would motivate one of ordinary skill in the art to use two different types of aromatic diisocyanates to prepare a polycarbodiimide having the structure of the present invention with the claimed relationship between formula (1) and (2).

Accordingly, when Saito is read as a whole, Saito does not provide any motivation that would lead one of ordinary skill in the art to prepare a polycarbodiimide having the structure of the present invention with the claimed relationship between formula (1) and (2) by reacting naphthalene diisocyanate and another type of diisocyanate of formula (3) to (7) where 5 mol% or more of naphthalene diisocyanate based on the total organic isocyanate is used.

For the above reasons, one of ordinary skill in the art would not arrive at the present invention based on the disclosure of Saito.

Further, Saito relates to a fuel cell separator and the thin carbon plate for use as the fuel cell separator is obtained by forming a polycarbodiimide resin into a thin plate and heating and carbonizing the thin plate, which is apparent from the claims of Saito. In other words, because the polycarbodiimide used in the invention of Saito is heated and carbonized, it is not

transparent.

On the other hand, the present invention relates to a polycarbodiimide resin having a high index of refraction, which is for optical applications. Accordingly, different from the polycarbodiimide of Saito, which is heated and carbonized, the polycarbodiimide of the present invention is required to have transparency and actually has transparency. The polycarbodiimide resin that has transparency and is suitable for optical use is obtained by the composition as defined in claim 1, especially by utilizing the production process as defined in claim 5. Specifically, transparency is provided based on the carbodiimide unit having a naphthalene group and a high index of refraction is provided based on the carbodiimide unit having another organic diisocyanate residue. Thus, the high index of refraction of the present invention is achieved by limiting  $R^1$  to a naphthylene and by defining m and n, and the combination of the structural units of formulae (1) and (2) provides an effect of assuring transparency.

As described above, Saito does not disclose or suggest a transparent polycarbodiimide resin which is suitable for optical use. Moreover, Saito is silent with respect to a high index of refraction.

In view of the above, it is respectfully submitted that a *prima facie* case of obviousness has not been established and withdrawal of the rejection is respectfully requested.

### **III. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

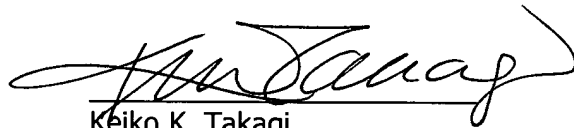
**AMENDMENT UNDER 37 C.F.R. § 1.116**  
**U.S. Application No. 10/773,296**

**Attorney Docket Q79398**

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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